28 In order to this, let it firſt be conſidered, *that we cannot, by any means we are yet acquainted with, force the electrical fluid thro' glaſs.* I know it is commonly thought that it eaſily pervades glaſs, and the experiment of a feather ſuſpended by a thread in a bottle hermetically ſealed, yet moved by bringing a rubbed tube near the outſide of the bottle, is alledged to prove it. But, if the electrical fluid ſo eaſily pervades glaſs, how does the vial become *charged* (as we term it) when we hold it in our hands? Would not the fire thrown in by the wire paſs through to our hands, and ſo eſcape into the floor? Would not the bottle in that caſe be left juſt as we found it, uncharged, as we know a metal bottle ſo attempted to be charged would be? Indeed, if there be the leaſt crack, the minuteſt ſolution of continuity in the glaſs, though it remains ſo tight that nothing elſe we know of will paſs, yet the extremely ſubtile electrical fluid flies through ſuch a crack with the greateſt freedom, and ſuch a bottle we know can never be charged: What then makes the difference between ſuch a bottle and one that is ſound, but this, that the fluid can paſs through the one, and not through the other? *

29. It is true there is an experiment that at firſt ſight would be apt to ſatisfy a ſlight obſerver, that the fire thrown into the bottle by the wire, does really paſs thro' the glaſs. It is this: place the bottle on a glaſs ſtand, under the prime conductor; ſuſpend a bullet by a chain from the prime conductor, till it comes within a quarter of an inch right over the wire of the bottle; place your knuckle on the glaſs ſtand, at juſt the ſame diſtance from the coating of the bottle, as the bullet is from its wire. Now let the globe be turned, and you ſee a ſpark ſtrike from the bullet to the wire of the bottle, and the ſame inſtant you ſee and feel an exactly equal ſpark ſtriking from the coating on your knuckle, and ſo on ſpark for ſpark. This looks as if the whole received by the bottle was again diſcharged from it. And yet the bottle by this means is charged! * And therefore the fire that thus leaves the bottle, though the ſame in quantity, cannot be the very ſame fire that entered at the wire; for if it were, the bottle would remain uncharged.

30. If the fire that ſo leaves the bottle be not the ſame that is thrown in through the wire, it muſt be fire that ſubſiſted in the bottle, (that is, in the glaſs of the bottle) before the operation began.

31. If ſo, there muſt be a great quantity in glaſs, becauſe a great quantity is thus diſcharged even from very thin glaſs.

32. That this electrical fluid or fire is ſtrongly attracted by glaſs, we know from the quickneſs and violence with which it is reſumed by the part that had been deprived of

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* See the firſt ſixteen Sections of my former Paper, called *Farther Experiments*, &c.

* See § 10 of *Farther Experiments*, &c.

BENJAMIN FRANKLIN *Experiments and Observations on Electricity* LONDON, 1751 THE WARNOCK LIBRARY Octavo